# CARBON FOOTPRINT – 2025

08/10/2026

## Boulangerie Bloch NV

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# 1 Introduction

This carbon footprint report is prepared for Boulangerie Bloch NV (hereafter: Bloch), located at Houtstraat 46, Destelbergen, Belgium.

The report covers scope 1 and scope 2 for the years 2023, 2024 and 2025. For 2025, it also includes a first calculation of the two largest scope 3 categories.

## 1.1 Organizational boundary

This report includes the greenhouse gas emissions of all following facilities, together with their respective activities:

- A production facility, located in Destelbergen (together with Culinor);
- A store, located in Ghent;
- A food truck, located in Ghent;

The operational control approach is used in this report.

## 1.2 Scope

A carbon footprint is the inventory of the total greenhouse gas emissions caused by an individual, event, organisation or product. The footprint is expressed in tonnes of $CO_2$ equivalent ($tCO_2e$).

This emissions inventory includes scope 1 and scope 2 for 2023-2025, and scope 3 categories 1 and 4 for 2025. It has been made in accordance with the requirements of the GHG Protocol. A distinction is made between 3 sources of emissions (scopes) in 2 categories: direct emissions (scope 1) and indirect emissions (scope 2 and 3). Biogenic emissions are not included, as they are not relevant to Bloch: the company does not generate significant emissions from burning or processing biomass.

# 2 Aim of GHG reporting

Bloch's carbon footprint was calculated to understand its current GHG emissions, to plot a GHG emission reduction pathway with smart climate actions, and to possibly become Net Zero in the long term. Bloch is the intended user of the GHG inventory report. Mantis Consulting is the responsible author.

This report contains the data for the calendar years 2023, 2024 and 2025 and will be updated at least annually. The report has been prepared in accordance with the GHG protocol and may be made publicly available. The inventory has not been verified by a third party.

# 3 Approach

The quantification in this report was carried out using the GHG Protocol and associated standards and guidelines.

The carbon footprint is presented for the calendar years 2023, 2024 and 2025. The greenhouse gases (GHGs) considered are the same as in the Kyoto Protocol: carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), perfluorinated hydrocarbons (PFCs), and sulfur hexafluoride ($SF_6$). Each GHG can be translated into tonnes of $CO_2$ equivalents. The $CO_2$ footprint of the organisation is thus expressed in "tonnes of $CO_2$ equivalents per year".

*Scope determination & system boundaries*
The scope of the analysis is scope 1 & scope 2 emissions for 2023-2025, and scope 3 category 1 (purchased goods and services) and category 4 (upstream transport and distribution, including storage) for 2025. No threshold for significance was used to exclude scope 1 and 2 emission sources. In other words, all scope 1 and 2 emission sources are included in this report. The other scope 3 categories are not quantified yet. The operational control approach was used.

*Data inventory and choice of base year*
All necessary input data were collected via an online meeting and a follow-up transfer of specific datasets requested. The scope 3 calculation starts from Bloch's 2025 purchase file. The year 2023 is used as base year.

*Characterisation*
In line with the ISO standard and the GHG protocol, organisations have to determine the specific emission factors for their activities themselves as much as possible. There is no prescribed list of emission factors per process or activity.

*Interpretation*
By means of tables and charts, the contribution of different processes/sources to the total CO2eq footprint can be analysed.

*Uncertainty*
All data was based on activity data, primarily stemming from invoices and traveled distances. As such, the uncertainty on the data level is low. As the emission factor databases used do not provide uncertainty data for their emission factors, the uncertainty on the level of emission factors cannot be quantified. However, the uncertainty is expected to be low. As a result, the combined uncertainty on the GHG inventory category level is assessed to be low, and as such should not impact the accuracy of GHG emissions data significantly.

# 4 Corporate footprint

Bloch recognises that its operations have an impact on the environment. The company is committed to operating in an environmentally responsible manner, minimising environmental risks and impacts, and reducing its carbon footprint. Bloch's goal is to minimise the organisation's impact on the climate.

## 4.1 Scope 1 & 2

The following table summarises Bloch's scope 1 and 2 carbon footprint for the base year 2023 and the reporting years 2024 and 2025. As there are no fugitive emissions and process emissions, these scope 1 categories are not included in the table.

*Table 1 Overview scope 1 and 2 emissions*

| Scope | Emission category | 2023 [tonnes $CO_2e$] | 2024 [tonnes $CO_2e$] | 2025 [tonnes $CO_2e$] | Evolution 2023 → 2025 |
|---|---|---|---|---|---|
| 1 | Stationary combustion | 48.9 | 50.5 | 59.5 | +21.5% |
| | Mobile combustion | 13.5 | 9.9 | 13.2 | -1.8% |
| | **Total scope 1** | **62.4** | **60.4** | **72.7** | **+16.5%** |
| 2 | **Electricity – Market based** | **70.9** | **58.0** | **24.5** | **-65.5%** |
| | ***Electricity – Location based*** | ***51.2*** | ***49.0*** | ***21.1*** | ***-58.9%*** |

| | | | | |
|---|---|---|---|---|
| **Total carbon footprint – Market based** | **133.3** | **118.4** | **97.2** | **-27.1%** |
| ***Total carbon footprint – Location based*** | ***113.6*** | ***109.4*** | ***93.8*** | ***-17.5%*** |

Emissions due to electricity consumption should be reported in two ways according to the GHG protocol:

- *Market-based:* Market-based emissions were calculated based on Bloch's electricity contracts and (for grey contracts) the Belgian residual mix[1].
- *Location-based:* Location-based emissions are calculated based on the GHG intensity of the Belgian production mix in that year.

Figure 1 shows the division of emissions between Bloch's different facilities. It is clear that the production facility contributes the most to the carbon footprint. Because this facility uses natural gas and grey electricity, the production has a large part in both the market-based and location-based emissions. The second biggest contribution comes from the fleet. In comparison, the store and the food truck contribute very little to the total carbon footprint.

[1] The electricity residual mix of a country represents the share of electricity supply for which the energy source is not proven through cancellation of Guarantees of Origin or other Reliable Tracking Mechanisms.

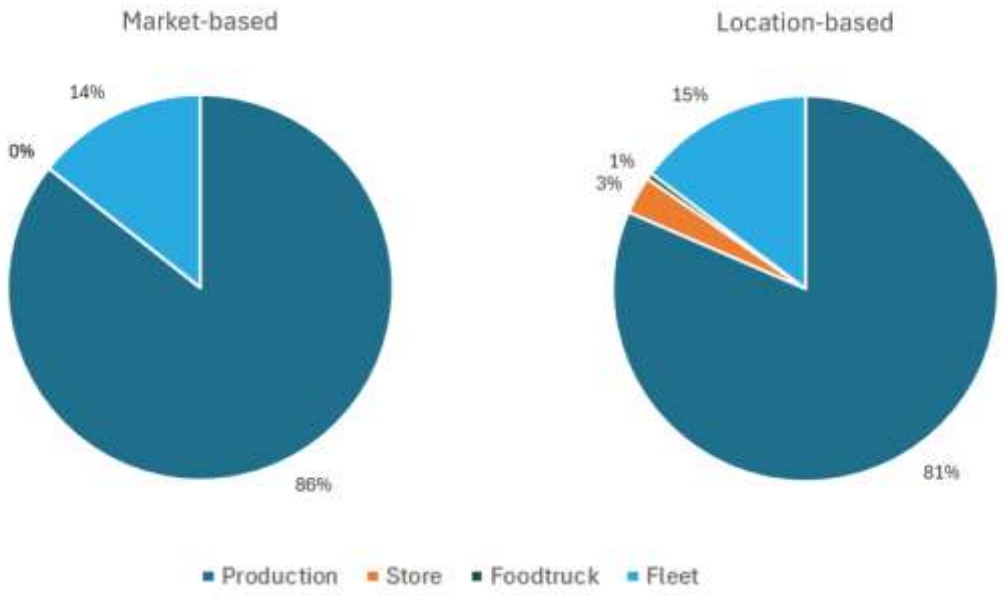


*Figure 1 Carbon footprint (2025) distribution per facility*

Absolute carbon footprint figures provide insight into a company's total GHG emissions but say little about how efficiently a company operates in relation to its size. A company can also grow in terms of turnover, number of employees, or production capacity, with higher absolute GHG emissions as a result. However, this does not necessarily mean the company has become less sustainable. By reporting a specific carbon footprint (e.g. per FTE or per euro of turnover), one gains more insight into the GHG intensity of a company. This makes it easier for Bloch to set internal benchmarks to track the progress of its sustainability goals. See the following table for Bloch's specific carbon footprint:

*Table 2 GHG intensity according to various characteristics*

| Characteristic | Absolute | | | Intensity | | |
|---|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2023 | 2024 | 2025 |
| GHG emissions (MB) | 133.3 tonnes $CO_2e$ | 118.4 tonnes $CO_2e$ | 97.2 tonnes $CO_2e$ | - | - | - |
| Employees | 16.9 FTE | 15.7 FTE | 19.3 FTE | 7.89 tonnes $CO_2e$ / FTE | 7.54 tonnes $CO_2e$ / FTE | 5.04 tonnes $CO_2e$ / FTE |
| Turnover | €5.985M | €6.519M[2] | €7.747M[3] | 22.3 tonnes $CO_2e$ / M€ | 18.2 tonnes $CO_2e$ / M€ | 12.5 tonnes $CO_2e$ / M€ |
| Production output | 638 tonnes | 732 tonnes | 812 tonnes | 209 kg $CO_2e$ / tonnes product | 162 kg $CO_2e$ / tonnes product | 120 kg $CO_2e$ / tonnes product |

[2] The reported value is the turnover adjusted with the inflation since 2023, to provide a correct basis for comparison. The actual 2024 turnover was €6.785M (inflation 2024 vs. 2023: 4.08%).

[3] The reported value is the turnover adjusted with the inflation since 2023, to provide a correct basis for comparison. The actual 2025 turnover was €8.152M (inflation 2025 vs. 2023: 5.23%).

## 4.2 Scope 3

Scope 3 covers the indirect emissions in Bloch's value chain. For 2025, this report quantifies for the first time the two categories that dominate a bakery's value chain and for which Bloch has primary data: purchased goods and services (category 1) and upstream transport and distribution, including storage (category 4). The other scope 3 categories are not quantified yet.

The calculation starts from Bloch's 2025 purchase file: 243 purchased items, together 891 tonnes of goods and packaging. Every item is linked to an emission factor for its material or ingredient (ADEME for food, ecoinvent for packaging). Fossil emissions and land use emissions are reported separately.

*Table 3 Overview scope 3 emissions (2025)*

| Scope 3 category | Emissions 2025 [tonnes $CO_2e$] | Share |
|---|---|---|
| Category 1 – Purchased goods (fossil) | 1,913.9 | 55.0% |
| Category 1 – Purchased goods (land use) | 1,555.2 | 44.7% |
| Category 4 – Upstream transport (fossil) | 7.1 | 0.2% |
| Category 4 – Storage (fossil) | 3.0 | 0.1% |
| **Total scope 3** | **3,479.2** | **100%** |

Purchased goods account for 99.7% of the calculated scope 3 emissions; transport and storage for only 0.3%. Land use emissions (44.7%) come mainly from ham and cheese, largely in the purchased quiche fillings. These fillings were calculated as a worst case: the full weight of each filling was assigned to ham or cheese. The actual footprint is therefore likely to be lower.

Scope 3 is calculated for 2025 only, so there is no trend yet. Bloch's SBTi target covers scope 1 and 2. Scope 3 is therefore reported separately and is not included in Table 1, Table 2 or Figure 1.

# 5 Product carbon footprint

In 2025, one kilogram of Bloch product carries on average **4.39 kg $CO_2e$** from cradle to factory gate: **2.47 kg fossil (56%)** and **1.92 kg land-related (44%)**. We add the scope 1 and 2 emissions of the production site to scope 3 categories 1 and 4, and divide by the 812 tonnes produced in 2025.

*Table 4 Product carbon footprint per kilogram of product, cradle-to-gate (2025)*

| Component | Fossil [kg $CO_2e$/kg] | Land [kg $CO_2e$/kg] | Total [kg $CO_2e$/kg] |
|---|---|---|---|
| Ingredients and packaging (category 1) | 2.36 | 1.92 | 4.27 |
| Transport and storage (category 4) | 0.01 | 0.00 | 0.01 |
| Energy production site (scope 1 and 2) | 0.10 | 0.00 | 0.10 |
| **Total cradle-to-gate** | **2.47** | **1.92** | **4.39** |

**Included:** ingredients and packaging from farm to supplier gate, inbound transport and storage, and the gas and electricity of the production site.
**Not (yet) included:** upstream emissions of fuels and electricity, production waste, other purchases (services, cleaning agents, water, capital goods), the fleet, store and food truck (+0.02 kg $CO_2e$ per kilogram) and everything after the factory gate.

This figure is an average for the full product range and an upper estimate. Use it as an internal benchmark, not as a claim for a specific product.

# 6 Reduction targets

Bloch is committed to aligning its climate ambitions with the 1.5°C pathway of the Paris Agreement. We have therefore set a near-term science-based target to reduce our combined scope 1 and scope 2 (market-based) greenhouse gas emissions by 42% by 2030, relative to the base year 2023. Figure 2 shows how our scope 1 and 2 emissions have evolved against this pathway. In 2025, our emissions were 97.2 tonnes $CO_2e$, 27% below the base year.

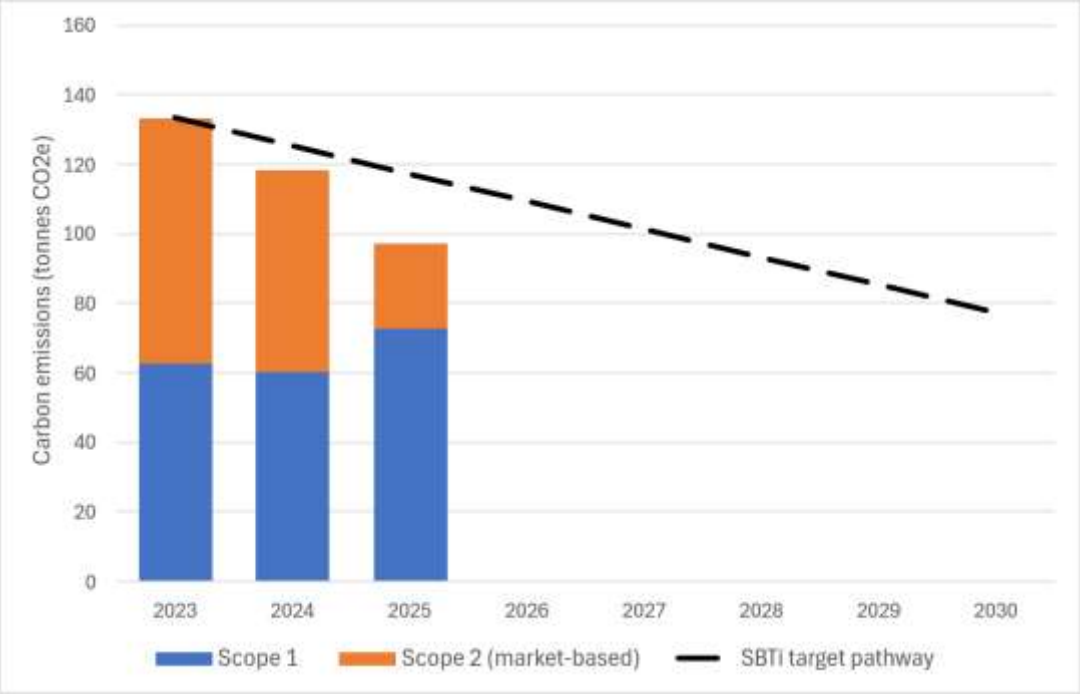


*Figure 2 Evolution of scope 1 and 2 emissions (market-based) against the SBTi target pathway*

The *Science Based Targets initiative* (SBTi) has approved this near-term science-based emissions reduction target.

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION